Working Men's Colleges

I HAVE only just seen your remarks on Working Men's Colleges, and your suggestion that "men and women should be treated, not as artizans, mechanics, or gentlemen, but simply as men and women." May I, speaking as a member of the College in Great Ormond Street, and also of the younger college here, and having an intimate knowledge of both during the whole of their existences, assure you that both these colleges were opened and have been carried on in the spirit you suggest, and in no other? Certainly, we have never in either college desired to treat *women* as either "artizans, mechanics, or gentlemen."

Secondly, I do not think either college is second, even to the "Berlin Working Men's Club," in *catholicity*. Each college puts forth a programme of what it can give its members, and there is not in either college the slightest effort to induce any member to do anything but what he has a spontaneous desire to do. Neither college "belongs to any religious or anti-religious body." Neither college has any "Shibboleth of any kind whatever."

Thirdly, your suggestion that all the colleges and clubs should be united into one, would have more value in a small town than in London, with its hundreds of miles of streets and its millions of inhabitants.

Lastly, there is an essential difference between a college and a club. The one has a foundation in work, the other in recreation; the chief work of the one is mental, of the other social; in both it is moral. Both are necessary, but they need not necessarily be carried on in the same building.

Another point is that working men *cannot* form a college *for* and *by* themselves, except they scarcely need it. The number of members needful to defray the expenses is so large, and the number of men in London possessing the elementary education requisite to give them an intelligent and persistent desire for such a place is comparatively so small, that I do not think any college in London can be wholly self-supporting for some years to come.

If any of your readers desire to know what kind of work the two colleges are doing, I shall be happy to give them full particulars of the work and of its difficulties, and still more of its need to be done. I think you are in error in speaking of the *extension* of the scientific programme of Great Ormond Street College. I have before me the new programme of that college. In *this*, the younger college, we have put before our students a larger number of science classes than we have hitherto done, because we are beginning to find that the men who have passed through our night schools and elementary classes give us hopes of doing good in this way. Possibly it is to this that you meant to refer.

W. ROSSITER, Hon. Sec.

October 4 South London Working Men's College

[We wrote by the card in speaking of a projected extension of the scientific instruction at the Working Men's College in Great Ormond Street.—ED.]

Lunar Rainbow

I HAVE just witnessed this evening (Monday, 10th, 7.30 P.M.) a magnificent lunar rainbow, distinctly coloured throughout, and with the reflection bright towards the west. The space within the bow appeared lit up by a silvery haze, offering a marked contrast to the inky appearance of the cloud beyond the bow.

The moon was shining brightly as the shower commenced during which the rainbow was seen. It was observed at different times during the evening by several persons.

Cromer, Norfolk J. G. DUTHIE

NOTES

WE have great pleasure in announcing that the American Government have voted 6,000*l.* for the expedition which will be sent to Spain and Sicily to observe the coming eclipse. It will be in the recollection of our readers that our own Government have refused to give either a single ship or a single shilling in aid of our own observations; as we said before, comment is useless.

WE have also a word to add to another instance of American enlightenment which we chronicled last week, namely, the vote of 50,000 dollars towards the construction of a refractor similar to that recently erected by Mr. R. S. Newall at Gateshead. The Superintendent of the U.S. Naval Observatory, Washington, has written to Mr. Newall a letter which we have been permitted to see, in which, after referring to the munificence which has endowed astronomy with such an instrument as the Newall telescope, he requests permission for Prof. Newcombe to inspect it, with a view of judging what devices and mechanical arrangements are best adapted to secure the successful and easy manipulation of the American instrument.

THE death of Prof. Miller has been followed by another heavy loss to Chemical Science in that of Dr. Augustus Matthiessen, one of the rising chemists of greatest promise in this country. The work which he had already done had acquired for him a reputation equalled by few, and exceeded by none of his fellow-workers of his own age; to this we hope to refer more at length next week. He occupied the position of Lecturer on Chemistry at St. Bartholomew's Hospital, and was, at the time of his death, one of the Examiners to the University of London. He was in his 39th year.

THE "fish torpedo" which, as we stated some little time ago, has been for some time subjected to various experimental trials by a committee of naval officers, under Captain Arthur, R.N., was put to a practical proof on Saturday, at Sheerness. The *Oberon*, paddle-wheel steamer, had been specially supplied with a 12-horse power engine and air pumps for filling the torpedo with compressed air, and fitted with a large discharging tube at the bow for launching it under water. The peculiarity of the torpedo is that it will maintain its passage at any particular depth between five and fifteen feet from the surface; the propulsion being entirely submarine and effected at the rate of six or seven miles an hour by the action of the compressed air on a screw propeller. Two torpedoes were run against the *Aigle*, a large hulk lying in the harbour, both from a distance of 140 yards. The first contained a charge of 67lb. of gun-cotton, and hit the hulk, exploding on impact, and making a clean hole, 20 feet by 10 feet in area, and sinking her at once. Nets were placed at 15 feet from the side of the hulk, and the second torpedo run at them, being launched from a framework attached beneath a boat. This torpedo, containing a charge of 18lb. glyoxiline, was caught in the nets and exploded there, doing no damage whatever to the side of the hulk. The machine is the invention of Mr. Whitehead, an English engineer, having works at Fiume, in Hungary.

WE must refer our readers to the October number of the *Astronomical Register* for an account of a discussion on the great Melbourne telescope, at the Royal Society of Victoria. The colonists mistrust their great reflector, and we do not wonder at it, the day for metallic specula is past, and we regret that our Royal Society had anything to do with sending out such an instrument.

THE *Astronomical Register* announces that the post of Government Astronomer at Sydney is vacant by the death of Mr. George K. Smalley.

Now that the Government are accused by a tribunal appointed by themselves, of having built a top-heavy ship "in deference to public opinion, as expressed in Parliament and in other channels" (*sic*) and "in opposition to the views and opinions" of their scientific adviser, might we be allowed to suggest that the more Government attempts to encourage the advancement of scientific ideas and studies among members of Parliament and other channels, the better? The cost of the *Captain* in hard cash would have helped to disseminate a vast amount of scientific education and interest throughout the land had it been properly spent; and now it is quite lost, because the Government are Philistines, and do not like Science, and build top-heavy ships because ignorant members of Parliament and other "channels" clamour for them.

Artists, manufacturers, and others who have not expressed their desire to be admitted as exhibitors at the International Exhibition of 1871, are requested to do so before the 10th of November next. Her Majesty's Commissioners, as already notified to the public, do not intend to award prizes to exhibitors. They will, however, afford every facility to societies and individuals desirous of offering prizes for the encouragement of Art or industry in connection with the Annual International Exhibitions; and are prepared to receive such offers, and to publish the conditions of competition which the donors may wish to prescribe. The conditions are announced of a competition of prizes for the best fan, the first prize of 40*l.* being offered by Her Majesty the Queen. The painters and decorators are completing their work in the fine art galleries. We understand that it is the intention of Her Majesty's Commissioners to invite artists and exhibitors of all fine art works to inspect these galleries shortly.

The American Association for the Advancement of Science closed its nineteenth meeting on the 25th of August, at Troy, N.Y. Owing to the illness of President William Chauvenet, of St. Louis, the Vice-President, Dr. T. Sterry Hunt, of Montreal, presided. The meeting was largely attended, there being about 300 names enrolled on the treasurer's books. The next meeting is to be held in Indianapolis, and the meeting in 1872 will probably be held in San Francisco, upon the invitation of the California Academy of Sciences. The president-elect for the next meeting is Prof. Asa Gray, of Cambridge; general secretary, Prof. F. W. Putnam, of Salem, Mass.; treasurer, Mr. William S. Vaux, of Philadelphia.

We learn that the building for the New York Industrial Exhibition will be commenced on the 15th of December. Twenty-three acres have been purchased between 98th and 102nd Streets, the purchase money amounting to 2,658,000 dollars. It is intended to make this one of the finest, or perhaps we should rather say *the* finest permanent institution of the kind in the world. The building will probably cost not less than 8,000,000 dollars, and it is the intention of the managers to advertise for designs at an early day. The importance of such an enterprise to New York can hardly be over-estimated. The benefits that have been conferred by the Central Park in opening up a place of resort uncontaminated by beer-saloons and other demoralising agencies has been very great, and the present effort to extend facilities for instructive pleasure and innocent amusement deserves well of all who desire the good of the city.

We understand that the following are candidates for the Regius Professorship of Natural History in Edinburgh, vacant by the resignation of Professor Allman:—William N. McIntosh, M.D. Edin., F.L.S.: H. Alleyne Nicholson, M.D., D.Sc. Edin., F.R.S.E.; and Wyville Thomson, LL.D. St. Andrew's, F.R.S. We believe we are correct in stating that there is no truth in the rumours that either Prof. Flower, of the Royal College of Surgeons, or Prof. E. Perceval Wright, of Dublin, is a candidate for the chair.

The authorities of King's College, London, have arranged that the duties of the chair of chemistry, vacant by the death of Prof. Miller, shall be performed, pending the appointment of a successor, by Prof. Odling.

The First Commissioner of Works intends to have distributed this autumn, among the working-classes and the poor inhabitants of London, the surplus bedding-out plants in Battersea, Hyde, the Regent's, and Victoria Parks, and in the Royal Gardens, Kew. If the clergy, school committees, and others interested, will make application to the Superintendents of the Parks nearest to their respective parishes, or to the Director of the Royal Gardens, Kew, in the cases of persons residing in that neighbourhood, they will receive early intimation of the number of plants that can be allotted to each applicant, and of the time and manner of their distribution.

The Horticultural Society held a Fungus-show on the 5th inst. for competition for prizes offered by Mr. W. W. Saunders, F.R.S., for the best collection of Edible and Poisonous Fungi. Several exceedingly good collections were shown, which attracted a great deal of attention, many of the visitors being evidently astonished at the large number of common fungi which are warranted by experts to be not only innocuous, but wholesome articles of diet.

On the 4th inst. a large public meeting was held in the Mechanics' Hall, Dewsbury, for the promotion of Technical Education in Yorkshire. Classes for instruction in drawing and elementary science are to be opened under certified teachers. The inaugural address was delivered by Mr. J. Buckmaster, of the Science and Art Department. After explaining the aid rendered by the Government, he pointed out at some length the industrial and moral advantages derived from the acquisition of scientific knowledge.

There has just been started in the city of Baltimore, U.S.A., a society of fifty members, called "The Maryland Academy of Sciences." It is intended to pay special attention to microscopy. The principal officers are Philip T. Tyson, President; John G. Morris, Vice-president; Edwin A. Dalrymple, Corresponding Secretary.

The annual examinations for degrees in the Queen's University, in Ireland, commenced last week, and will be continued during the greater part of the present week. The examining body of the University consists for the most part of the professors in the different faculties in the three Queen's Colleges. We regret to learn that Prof. Wyville Thomson is unable to take his part in these examinations owing to continued ill-health.

Prof. Verrill, of New Haven, has just returned from an expedition to the Bay of Fundy. The greatest depth encountered in dredging even as far as fifty miles from the coast, was not beyond 120 fathoms. Very large collections were made, many rare and about sixty new species were discovered, the number of species in Prof. Stimpson's list being more than doubled. We hope soon to have a catalogue of the fauna of the bay from Prof. Verrill.

Sir Walter Elliot is compiling a record of what has been done by local societies in Great Britain and Ireland, towards elucidating the natural history of the districts in which the societies meet. Any information, as when such societies were established and by whom, and details generally as to their proceedings, will, we hope, be forwarded to Wolfelee, Hawick, N.B.

Mr. James Britten, of the Royal Herbarium, Kew, and Mr. Robert Holland, of Mobberly, Knutsford, Cheshire, have in preparation a work on the folk-lore connected with plants. Any assistance will be gladly received by either of these gentlemen at the addresses given above.

A work is announced on the land and fresh water shells of British India, "Testacea indica, terrestria et fluviatilia," by Sylvanus Hanley, F.L.S., and William Theobald, of the Geological Survey of India. It will be issued by Messrs. L. Reeve and Co., in monthly parts, and will contain sixty to eighty 4to plates.

In another column we give an abstract of Capt. Carmichael's paper read to the Geographical Section of the British Association, relating to the aboriginal Indians of Central America. Since then, the following interesting information has come to hand. A correspondent, writing from Santa Fe, New Mexico, to the *New*

York Tribune, says:—"Governor Arny, the indefatigable special Indian agent for this territory, has lately returned from a point north of the San Juan country, and reports that during his tour to reach the Utah Indians, his party found the Canon de Chelly in the great Sierras, which was explored for more than twenty miles. Among canons towering precipitously to the height of 1,000 to 2,000 feet, they found deserted ruins of Aztec cities, many of which bear the evidences of having been highly populous. In one of these canons, the rocky walls of which rose not less than 2,000 feet from the base, and whose summits on either hand inclined to each other, forming part of an arch, there were found high up, hewn out of the rocks, the ruins of Aztec cities of great extent. In each of these rocky eyries there remained in a state of good preservation a house built of stone, about twenty feet square, containing one bare and gloomy room, in the centre of which were traces of fire, and also a single human skeleton. The only solution of this enigma thus far advanced is that these solitary rooms were the altar places of the Aztec fires; that from some cause the people at a remote period were constrained to abandon their homes, but left one faithful sentinel in each instance to keep alive the flame which, according to the Indian traditions of these regions, was to light the way of Montezuma, their so long hoped for Messiah, again to his people. A close examination of many of the ruins proved that the builder must have been skilled in the manufacture and use of edged tools, masonry, and other mechanical arts." A good idea of these rocky canons or mountain gorges will be obtained by reference to the description and illustrations of the Canons of the Sierra Nevada, given in NATURE, vol. i. p. 434.

IN directing attention to the recent regulations with regard to scientific teaching in force at Yale College, in our present number, we alluded to the exploring party which left Yale College under the charge of Prof. Marsh. We are glad to announce that their endeavours have been crowned with great success. They spent three weeks examining the geology of the country between the north and south branches of the River Platte, and discovered in Northern Colorado an extensive tertiary deposit, abounding in fossil remains. The formation is identical with the "Mauvaises terres" deposit of Dakota, and apparently forms the south-western border of some ancient fresh-water lake (see NATURE, Vol. II., p. 385, "The Ancient Lakes of Western America"). These beds were traced to the north, and along the North Platte River; several thousand specimens were collected, and among them a number of new species of tertiary mammals.

ARRANGEMENTS are being made to light the stations of Rawul Pindee in India with gas from the local deposits of petroleum, being one of the first examples of their utilisation.

FULLER details have now arrived of the great earthquake we reported as having occurred in Thibet in May, and which extended over a wide area of country.

MR. BROUGHTON, the Government quinologist in India, has been called upon to examine the bark of an indigenous Indian tree, *Hymenodictyon excelsum*, supposed to be a powerful febrifuge. He reports that it contains a bitter principle, identical with æsculin, and also found in the horse-chestnut tree, but of little therapeutic value.

THE experiments in growing Carolina rice in our great rice-country of English Burmah are reported as having failed.

IT may be esteemed a benefit that we have a local press in India, which may collect for us more facts as to natural phenomena, but the acceptance of anything from such sources must be received with caution. New facts about snakes are in this class. The Vellore correspondent of the *Madras Standard* asserts on reliable information that a native woman near that town lately gave birth to a child and a snake, and that another has produced twins, and a third child, which looked like a toy elephant. A very respectable and well-educated Mussulman lately reported the exhibition, we think at Benares, of a mermaid from Japan, which he accepted on the evidence of his own eyes and the statements of the highly respectable Mussulman showmen, and duly reported to the paper of which he is the correspondent.

A GOOD example of the value of agricultural shows and their influence on produce, is shown in India by the Vellore shows, which have now been held for twelve years. At the same time the results show the difficulty of organising cattle-shows there, and how it may be overcome. As is well known, the superstition about the sacred cow is strong in India, and the ryots can hardly be got to exhibit, and the first cows shown were scarcely worth a prize. Now the exhibition of the famous Vellore breed has reached 173 cows and heifers, and a great improvement is visible. It is suggested that the exhibition of Vellore bulls will also be attended with advantage. In India the greatest care is requisite in the most trivial undertakings in dealing with the superstitions of the natives.

THE Cinchona cultivation has so well succeeded in the English hill settlement at Darjeeling, in the Himalayas, that last year 5,000lbs. of bark was sent to London from Cinchona trees planted in 1862 on one plantation. Tea produced, in 1869, 1,319,743lbs. from 10,769 acres of hill land formerly said and reputed to be worthless, and unsuited to give a return to Englishmen. We shall now hear of Indian bark as well as Peruvian, as we know Indian tea to hold its own against Chinese.

CONGRESS has granted 30,000 dollars for the erection of a Government Winter Garden, either at New York or Washington, somewhat similar to that at Kew, but on a smaller scale. This will partake partly of the nature of an economic garden, in which useful plants can be raised and then disseminated far and wide throughout the States.

"THE Reign of Law," by the Duke of Argyll, which has been published so long in England, has at last been republished in America. It is announced as the first American from the fifth London edition, published by C. Leat and Co., New York. We also hear of a Canadian reprint of Prof. Huxley's "Lay Sermons."

THE cinchona trees are taking well in Jamaica. Experiments on the culture of American tobacco in India are being made by the Maharajah of Burchwan in Midnapore and Cuttack. The last year's experiments with seeds from James River, Virginia were very successful.

ARGENTIFEROUS galena has been discovered in the district of Beerbhoom, in India, by Mr. Ball, of the Geological Survey. The assay of some picked specimens gives 110 ozs. of silver to the ton of lead, and it is considered there is a sufficient quantity of ore to justify working.

ERUPTION OF THE VOLCANO TONGARIRO, NEW ZEALAND

THROUGH the kindness of Dr. J. D. Hooker, we have received the following important and interesting account of the eruption of this volcano, together with drawings, from the pencil of Dr. Hector, of the most interesting features of the mountain itself, from which we are enabled to copy the accompanying woodcuts:—

Dr. Hector announced, at the meeting of the Wellington Philosophical Society of New Zealand, held July 17th, that Tongariro, the only active volcano in the colony,